

ABSTRACT

1 A method of seismic surveying using one or more vibrational seismic energy sources
2 activated by sweep signals. The highest order harmonic that has sufficient strength to
3 cause significant harmonic distortion of a sweep segment is determined. A number of
4 sweep segments in excess of the number of sources is selected. Initial phase angles are
5 selected for each sweep segment of each seismic energy source so that substantially all
6 harmonics up to and including the highest order harmonic are suppressed. Using
7 cascaded sweeps, seismic data are acquired and processed to substantially attenuate
8 harmonics upto the selected order.